Office States 1 atent [19]					
Lu	Lugaresi				
[54]		CK ATTAC TER KEYI	CHMENT FOR A	<b>A</b>	
[76]	Inventor		<b>J. Lugaresi</b> , 471 campbell, Calif. 9		
[21]	Appl. No	o.: <b>602,825</b>			
[22]	Filed:	Apr. 23,	1984	•	
[51] [52]	U.S. Cl.		<b>A63F 9/00;</b> <b>200/6</b> A 5/146; 273/85 G	<b>A</b> ; 179/90 <b>A</b> ;	
[58]	200/3	40, 17 R, 18 90 A, 90 A		153 K, 330, G, DIG. 28; 74/471 XY;	
[56]		Referer	nces Cited		
	U.S	. PATENT	DOCUMENTS	S	
	3,950,634	1/1976 Spei	vesser	235/145 R	

4,029,915 6/1977 Ojima ....... 200/340 X

4,124,787 11/1978 Aamoth et al. ...... 200/6 A

Malacheski ...... 200/330

Speraw et al. ...... 235/146

Asher ...... 200/153 K X

4,135,074 1/1979

4,158,130 6/1979

4,349,708 9/1982

Inited States Patent 1101

[11]	Patent Number:	4,575,591
[45]	Date of Patent:	Mar. 11, 1986

4,439,648	3/1984	Reiner et al.	 200/6	A

4,439,648	3/1984	Reiner et al	200/6 A
4,480,103	10/1983	Smith III	200/6 A
4,486,629	12/1984	Sledesky	200/6 A

## FOREIGN PATENT DOCUMENTS

Primary Examiner—J. R. Scott Attorney, Agent, or Firm—Paul L. Hickman

## [57] ABSTRACT

A joystick attachment for a computer keyboard which includes a bracket on which is supported a housing for a joystick assembly, the bracket being detachably mounted on a computer keyboard having a plurality of keys arranged in a rectangular array with the joystick assembly in over lying, spaced-apart relationship with the array, the joystick assembly including an upstanding handle projecting upwardly through an opening in the housing and supported on the bracket for universal pivotal movement together with a plurality of circumferentially spaced actuating arms each operatively associated with one of said keys and movable selectively by the handle against a yieldable member from an inoperative position into an operative position into an operative position for depressing engagement by the arm with an associated key in the array.

19 Claims, 12 Drawing Figures

